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# WARGAME BUSINESS

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## Wargames in Military and Corporate Settings

*Shay Hershkovitz*

**W**argames have a centuries-long history in military circles, but the world of business only adopted their fundamental principle in the late 1950s.<sup>1</sup> In recent decades, both corporate and military thinkers have renewed their interest in simulation games. *Gamification* (incorporating game elements into more-serious activities) and “serious video games” have given wargaming a more significant place in both business and military simulation discussions.

Wargames and business games do have some dissimilarities in their concepts and methodologies, but they also have similar strategic environments, planning, and decision-making processes. Therefore, the analysis of business game case studies can enrich the practice of wargames in the military world, and vice versa.

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This article clarifies the similarities and the analogical relationship between the fields of war and business, addressing three critical constructs (a) to illustrate the historical shift of wargames from the military world to the corporate one; (b) to explore the shared challenges facing strategic planners, which wargames and business games can address and overcome; and (c) to present three business games in a corporate setting. The article then will describe the lessons identified from these three case studies and how these lessons can help strategic planners from both the military and the business worlds overcome challenges.

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## A BRIEF HISTORY OF WARGAMES

The earliest wargames (e.g., *chaturanga* [chess, around AD 280–550] and *wei-hai* [Go, around the third or fourth century BC]) were recreational, enabling simplified forms of operational thinking. In the wake of the French Revolution, as well as the institutionalization and modernization of armies in the seventeenth and eighteenth centuries, militaries needed simulation-based thinking that emulated the forms, factors, and functions of battles and campaigns, with critical nodes and decision points. This led to sophisticated wargames that simulated military forces, variable topography, and even maritime combat using tabletop frameworks. The Prussians developed the most systematic methodology in the *Kriegsspiel* (wargame), allowing them to test their battle plans as well as educate their armed forces.<sup>2</sup>

At the close of the nineteenth century, wargames became a global phenomenon as the Russians, Japanese, French, British, and Americans assimilated this practice into military planning.<sup>3</sup> In 1905, German chief of the Great General Staff Alfred von Schlieffen conducted a broad-ranging wargame that tested his plan for a decisive attack of France by way of Belgium.<sup>4</sup> After World War I, the Germans conducted an investigation into their defeat, concluding that wargames must include political processes to simulate better the strategic environment in which armies function. On that basis, Germany began pioneering national wargames in which civilians (e.g., politicians, diplomats, and journalists) participated for the first time. The Wargame Branch of the German military conducted the first political-military (pol-mil) game in 1929.<sup>5</sup>

German chancellor Adolf Hitler ended Germany's pol-mil games, seeing them as an unnecessary intellectual exercise that failed to incorporate such variables as ideology and intuition. Nevertheless, the Wehrmacht (unified armed forces of Nazi Germany from 1935 to 1946) continued to refine Germany's use of wargames, including a simulation of the invasion of Poland, the occupation of the Soviet Union, and an Allied invasion of Normandy. Almost all major countries involved in World War II conducted strategic and operational wargames.<sup>6</sup>

Indeed, similarly to other military and technological development, World War II was the catalyst behind wargames' leap forward. As Joseph Wolfe has stated, "Modern business gaming came about through the merging of developments in wargames, operations research, computer technology, and education theory."<sup>7</sup> Richard D. Duke has argued that "World War II spawned at least five developments which have been woven into the fabric of gaming: computers, operations research, the mathematical theory of games, simulation, and the early business games."<sup>8</sup>

After World War II and as the Cold War progressed, wargame development accelerated in the United States, especially after the RAND Corporation began

to “game out” crisis scenarios, particularly nuclear crises, with the participation of senior U.S. officials.<sup>9</sup> This heralded a return to the clear separation between military wargames and political strategic games. Although not mutually exclusive, the former emphasized the use of military power and tended to focus on operations, while the latter focused on grand strategy, in which military force was one of many potential tools.

There are examples from the business sector as well. The former Soviet Union conducted a hand-scored simulation dedicated to businesspeople in 1932, mainly for the purpose of training managers of the Ligovo typewriter factory, and Japan pioneered the field of simulation games dedicated to economic studies and business.<sup>10</sup> The onset and subsequent disasters of World War II put an end to these business gaming experiments in both countries.

Following World War II, interest quickly grew in the theory of organization, along with some developments in game theory and its application to decision-making.<sup>11</sup> Therefore, it is not surprising that in 1957 the American Management Association developed and conducted one of the first business games—the *Top Management Decision Simulation*—followed by the *Top Management Decision Game*.<sup>12</sup> In 1958, the *Harvard Business Review* published a paper assessing the relevance of wargames to the business world.<sup>13</sup> The journal’s prominence meant that the practice received wide exposure, and business wargames gained additional momentum throughout the 1960s. Universities, research institutes, and independent companies developed hundreds of games in fields such as management, business operations, finance, organizational theory, psychology, accounting, and marketing.

Through the mid-1980s, business games focused on strategic issues and matters relating to competitive intelligence, including the behavior of business players such as competitors and consumers, the evaluation of case studies and strategic responses, and the robustness of initial work plans.<sup>14</sup> This revolution culminated in larger consulting firms, such as McKinsey & Company and Booz Allen Hamilton, incorporating gaming methodologies into their customer offerings.<sup>15</sup>

In recent decades, corporations have turned again to wargames, inspired by the following factors:

- The benefits of games such as these are clear, even to industries long considered too important to be influenced by games. The increasing availability of advanced computing power and information technologies also contributes to the success of business games.
- Wargames are perceived as being grounded in the many approaches to strategic business planning popularized since the late 1990s.<sup>16</sup>

- Wargames, and by extension business games, are well suited to making decisions in a strategic environment in which leaders must assess a wide range of possible scenarios, under varied circumstances.<sup>17</sup>

Today, the two major types of business games are competitive scenarios, such as the entry of a market competitor or the outbreak of a crisis, and structured frameworks to prepare for complex negotiations.<sup>18</sup> Games also can be functional or general. Functional games assess specific aspects of a value chain, while general games take a strategic perspective relative to current and future markets.<sup>19</sup> General games can be either closed games, using software and algorithms to estimate market behaviors in response to participants' actions, or open games, more similar to workshops, wherein the dynamics among participants reflect the possible range of market conditions.<sup>20</sup> The most popular format for business games is role play, wherein participants compete with each other in teams.

In parallel, militaries around the world continue to use and improve their wargaming techniques, further developing their extensive body of knowledge. In 2015, U.S. Deputy Secretary of Defense Robert O. Work committed the Department of Defense (DoD) to overhauling its approach to wargaming to encourage innovation across the department; he imposed a five-year target of using wargames to improve operational planning.<sup>21</sup> In 2016, DoD requested more than \$55 million for wargaming for the next fiscal year, and more than \$525 million over the five-year Future Years Defense Program spending plan. As a senior CNA (formerly the Center for Naval Analyses) wargame expert stated, "Wargaming has gone through periods of popularity and disfavor, but I have never seen in the past 40 years any situation like this with the senior leadership."<sup>22</sup>

There is, therefore, no doubt that the public and private sectors can share each other's experience, methodology, and lessons learned to solve both their shared and their unique problems.

#### **THE MILITARY AND THE CORPORATION: SHARED PROBLEMS FOR STRATEGIC PLANNERS**

Examining the definitions of a wargame in each domain uncovers similarities and ways to compare the business environment to that of the military. DoD defines a wargame as a "simulation, by whatever means, of a military operation involving two or more opposing forces, using rules, data, and procedures designed to depict an actual or assumed real life situation."<sup>23</sup> Similarly, in his classic book, *The Art of Wargaming: A Guide for Professionals and Hobbyists*, Peter P. Perla defines a wargame as a "warfare model or simulation whose operation does not involve the activities of actual military forces, and whose sequence of events affects and is, in turn, affected by the decisions made by players representing the opposing sides."<sup>24</sup>

As for business games, the definitions reveal some similarities to military games. Marco Greco and his coauthors state that a wargame in the business world is “a game with a business environment that can lead to one or both of the following results: the training of players in business skills (hard and/or soft) or the evaluation of players’ performances—quantitatively and/or qualitatively.”<sup>25</sup> According to Samuel Eilon, business simulation games have a threefold purpose: to be used as training tools (in which players must face the consequences of their decisions), to provide an overall view of corporate strategic functions, and to simulate market trends to improve a player’s capacity to face changes.<sup>26</sup>

All these definitions describe an activity that simulates real-world conditions. A wargame in this context is serious, “a game whose central purposes are not recreational,” and represents “an exercise of voluntary control systems in which there is an opposition between forces, confined by a procedure and rules in order to produce a disequibrial outcome.”<sup>27</sup>

Despite the differences between environments, military and business leaders encounter similar challenges, particularly those related to analysis of an organizational setting, strategic planning, and implementation.<sup>28</sup> Simulations and games are an effective tool for overcoming these challenges, even partially, in both worlds—and gaming experiences in either world produce relevant insights for the other.

Two types of strategic planning challenges are those resulting from individual and group cognitive limitations or failures, and those arising from organizational structures, procedures, and behaviors.

### *Cognitive Limitations*

Planning and decision-making require an accurate appreciation of one’s strategic environment. The environment in which businesses (and militaries) operate, however, features high complexity, rapid change, and imperfect information. The cognitive capacity of individuals and groups to understand such information-intensive yet ambiguous situations is limited. Moreover, time pressure often does not allow for both rapid assessment and effective decision-making.

Human perception is an active process in which individuals and groups build their own versions of reality on the basis of assumptions and conceptions.<sup>29</sup> The “distorted perception” effect skews the process, however, so that decision makers are not aware of the basic assumptions and conditions that shape their thinking.<sup>30</sup>

Cognitive biases often arise out of distorted perceptions and systematic patterns or tendencies that cause errors in perception, memory, judgment, or thought. All individuals employ rules of thumb that help them to process information quickly and make decisions accordingly.<sup>31</sup> These shortcuts allow people and organizations to cope in uncertain environments, but they

nonetheless lead to systematic biases.<sup>32</sup> Such individual and group biases often are accompanied by chronic organizational problems, and the combination can be devastating.

### ***Barriers Caused by Organizational Structures, Procedures, and Behaviors***

A failure to convey information accurately is a strategic threat to any organization, with the knowledge necessary for effective strategic planning often split across separate organizational functions.<sup>33</sup> The first business games were developed precisely to allow future managers to discover all the functions of the firm, the interdependence of those functions, and the interrelations among the different functions (marketing, finance, accounting, sales and purchases, etc.). Furthermore, different people and functions have varied perspectives and interpretations of the operating environment and of how to achieve objectives, or even what those objectives are.

A good example of this dynamic can be seen between intelligence officers—both military and civilian—and elected officials. Elected policy makers generally lack professional knowledge regarding intelligence as a field and regularly believe that intelligence officers tend to expand, rather than reduce, the level of uncertainty. In most cases, intelligence officers lack the knowledge of both policy issues from the policy makers' perspectives and the constraints under which they operate.<sup>34</sup>

In the business world, the chief strategy officer is analogous to the intelligence officer, and the chief executive officer to the policy maker—yet the way players deal with complex problems remains the same. Both realms, and both types of roles, are rooted in a somewhat chaotic, unpredictable, and uncertain environment; in both realms there is an inherent tension between the desire to reflect reality fully and the need to shape reality actively.

This lack of collaborative culture has a negative effect on organizations. Organizational cultures that reinforce the concept of the “expert” and promote ownership of knowledge at the expense of shared understanding create islands of information and expertise that are not distributed through organizational channels. The knowledge produced on these islands could be valuable, sometimes even critical, but unless it is shared it is practically worthless. Where knowledge is power, those who give it up will lose, and those who do not have it are weak. This kind of corporate culture can cause professional jealousy and friction, reducing the organization's competitive effectiveness, and can create arrogance, rigidity, and impatience among decision makers, which restricts their ability to view a company's situation in its entirety. In contrast, wargames encourage the exchange of knowledge and can help overcome such problems.

### THREE CASE STUDIES FROM THE ISRAELI BUSINESS SCENE

This section will examine three case studies of business games in the Israeli business sector in which the author participated firsthand. They convert the theoretical into an example-based data set and demonstrate the use of wargaming methodologies in different contexts. The studies also describe the outcomes of these games and how organizations have incorporated these insights in their strategic planning. The resulting implications for military planners are then presented and discussed.

#### *Water Drops: The Entry of a New Competitor into the Household Appliance Market*

A household appliance company learned that a new competitor was planning to enter and change the market within six to eight months. Until that point, the original company had dominated its smaller competitors. The new challenger, however, had significant financial backing from a parent company that allowed it to enter the market aggressively and absorb losses over time. The original company's managers sensed that this new competitor would deliver a major blow, but they struggled to identify the specific implications, including how it would affect the company, its existing competitors, and consumer spending patterns.

The primary objective of the business game, which the author led, was to provide participants with a broad understanding of the new operational environment, which in turn demanded a new business strategy for the household appliance market. A second objective was to formulate general contingency guidelines on how to respond to the new competitor.

The author created this business game and led its execution in late 2012. My team created a two-phase game, with each phase having a different format to satisfy different objectives. In the first phase, participants received a description of the most likely scenario (on the basis of existing knowledge) to follow the new company's entry into the market. They then analyzed the new strategic environment and various scenarios that might develop. In the second phase, the emphasis was tactical. Participants worked in groups, receiving a concrete scenario relating to the competitor's products, pricing, or expected sales methods and channels. Each group developed a set of responses to its given scenario.

The business game began just days after the media had reported the details of the expected entry of the new competitor. These details troubled the original company's management, and an atmosphere of urgency surrounded the game environment. At the end of the series, participants were equipped with strategic and operational principles to cope with future short- and long-term challenges. The participants went through a cognitive journey, discussing how potential strategic

scenarios might unfold and testing potential responses. They then compared the insights gained in the game with their actual capacities, plans, and procedures, illuminating the areas that required update or change.

Players unanimously agreed on the need to devise and implement an active policy rather than a reactive one and to create an environment in which the new competitor would operate under unfavorable conditions. At the end of the second stage, participants realized that the original company was not sufficiently prepared for future competition and needed to make swift changes to its pricing and market position. The company's management later explored these vulnerabilities in greater depth.

### *A New Sheriff: A Telecommunications Group Prepares for the Appointment of a New Regulator*

A major telecommunications group sought to assess the competitive arena in light of the expected appointment of a new minister of communications. Issues for the participants to consider included the fundamental changes resulting from the outgoing minister's introduction of open-market competition, the entry of new competitors (especially mobile virtual network operators), and the consumer climate following the social protests of the summer of 2011.<sup>35</sup>

The group wanted to explore a full array of possible scenarios, ranging from maintenance of the status quo to deep structural change in the market. For each of these scenarios, the company would examine predictive trends, detail their manifestation, and examine their implications for the company. The players also would rank the scenarios by likelihood and formulate a strategic action plan that would foster desired scenarios and thwart dangerous ones.

This business game used a combination of scenario-based planning methodologies spread over a series of four sessions.

1. In the first session, participants defined the two central variables that would affect the future of the company over approximately eighteen months. After a thorough review of several options, they selected (a) the level of change advocated by the new minister of communications, placed on the  $x$  axis, and (b) consumer preferences for bundled or individual products, placed on the  $y$  axis. Their combination created four potential scenarios for the future condition of the communications market.
2. In the second session, participants split into four groups, each of which received one of the four scenarios developed in the first meeting. Each group then developed a detailed description of its scenario. In addition, each group developed an inventory of real-world indicators that would signal its scenario's emergence.

3. In the third session, the groups presented the scenarios and discussed their implications for the company. Together, they identified the most likely scenario, the most dangerous scenario, and the most desirable scenario. Interestingly, all the participants agreed that the most likely scenario was also the most dangerous, which surprised them. Although they had engaged in future planning before the game, they had not analyzed scenarios through the prism of impact and probability.
4. In the fourth session, participants formulated strategies to promote the most desirable scenario and avoid the most likely and dangerous scenario.

Participants ultimately gained a deep understanding of potential scenarios and their inherent implications, risks, threats, and opportunities. This new level of knowledge, along with a discussion of the probabilities of different scenarios, formed the foundation for the development of a strategic plan aimed at preventing (or at least manipulating) the dangerous scenario and promoting the desirable one.

#### *Health for All: A Public Health Fund Prepares for the Rekindling of Social Protests*

A year after Israel's social protests in the summer of 2011, many companies in the Israeli market were concerned about the protests' possible renewal and, particularly, the chances of being the next target of consumer rage. Against this backdrop, a public health fund sought to examine its preparedness in the event it became a target.

This game used the classic methodology of role playing.<sup>36</sup> The game structure divided the participants into several groups. One group played the health fund; three played its three competitors; a fifth played the minister of health (the regulator); and the last, most diverse group played the consumers.

All participants received an opening scenario that described a rekindling of consumer activism, along with a series of events leading to consumer anger targeting all health funds. The group playing consumers developed creative campaigns against the health funds, while the groups playing the competing health funds identified responses. Finally, the group playing the regulator created barriers limiting the marketing campaigns of the health funds—a common occurrence in reality.

The game revealed deep failures in the health fund's assessments of the scenario. Participants were unaware that a protest directed at their competitors likely would harm them as well. They also lacked awareness of their own weak points with respect to high-volume inquiries, potentially leading to a total collapse of their customer-service system. This game did not include a planning stage; that

is, there was no stage during which participants generated guidelines toward the formulation of a strategic plan. In the aftermath of the game, however, the health fund did prepare a plan, one involving various stakeholders, that provided detailed guidelines in case such a protest ever occurred.

## LESSONS FOR THE MILITARY AND BUSINESS WORLDS

As the examples above demonstrate, wargames are an analytical tool designed to overcome the difficulties that characterize strategic planning and decision-making. The following discussion details a few of these unique challenges.

### *The Strategic Environment*

Wargames are an effective tool for creating a laboratory environment in which there is room to experiment with ideas without paying the price of failure. In each of the case studies described above, participants confronted a possible future problem and attempted to find a solution via trial and error. In the third case study, for example, the participants learned to develop potential reactions to events that might result from the behavior of other groups.

Some argue that the laboratory environment is sterile, that reality is always more powerful and complex, and that it is impossible to predict the future fully or reconstruct the past.<sup>37</sup> These claims are correct, but they do not negate the usefulness of wargames. Although some wargames have shifted from training for the present to predicting a few possible futures (as happened during the First World War), wargames usually seek to provide general representations to help understand the problem at hand. Wargames apply a concrete perspective to abstract or ambiguous problems, whether actual or potential. The case studies presented above did not seek to provide a full description of reality, but rather focused on simulating key features of the current and future competitive landscapes and informing leadership of potential challenges and opportunities that might emerge from developments in the operating environment.

The objective of a wargame is to generate discussion of selected elements of the environment, given specific, defined parameters. A limited discussion is not less serious than an exhaustive one. On the contrary, discussions that take place in the context of a simulation normally occur without any pretense of predicting the future, instead illustrating a range of potential futures. Business games are, by their nature, somewhat imprecise. Their ambition is to be realistic, but not to reproduce the current reality and prevent or promote a certain future. Wargames make it possible to prepare for and shape the future by educating those who will operate in it. They focus on developing tools and capabilities to prepare for a variety of scenarios, including those not discussed here, and on implementing strategies in the present.

Wargames are not effective if the insights they generate are relevant only to the future. In fact, a significant proportion of future scenarios examine specific implications and make them operational in the present. The first two case studies presented above demonstrated this emphasis. The third exposed current weaknesses, rather than developing contingency plans. As a result, it provoked a process of evaluation within the organization, which led to the development of plans involving similar scenarios.

The principles exercised in these games can reduce the complexity of the strategic environment in both the military and business domains. They give participants a relatively simple—but not simplistic—way to discuss future events, subsequent outcomes, and potential implications for the organization.

### *Individual and Group Cognitive Limitations*

Wargames and business games are a useful tool for overcoming many cognitive distortions, particularly biases in decision-making, beliefs, and behavior. By their nature, role-playing games in business and military realms involve multiple perspectives and provide a framework to challenge existing conceptions by using scenarios. Given their isolated, self-contained environment, they allow participants to focus their thinking on the specified challenges at hand. For this reason, they have the potential to bypass the heuristic jumps that often create cognitive biases.

Role-playing games make no pretense that participants can predict behavior. Rather, they encourage participants to broaden their repertoire of mental schemes and worldviews, allowing them to expand their points of view and take different perspectives. For example, in the first case study, one of the participants played the role of one of his own suppliers and reflected on the real-world actions of his company. From that perspective, he realized that his behavior alienated not only his competitors but also his suppliers and crucial partners in the company's day-to-day activities. In the third case study, participants used their deep understanding of the health fund's weaknesses to explore protest moves that would exploit the fund's vulnerabilities; this revealed which issues required immediate attention before a certain scenario came to pass.

Wargames and business games require a group of experts to come together for a defined period and think together. In essence, this is the "wisdom of the crowd," in the form of the wisdom of many experts together.<sup>38</sup> The use of communities of experts as a supporting mechanism in strategic processes helps organizations overcome built-in cognitive difficulties. This, in turn, can help them overcome the significant complexities of strategic environments that are incomprehensible for individuals alone. It integrates subfield expertise with the need to present a

holistic, interdisciplinary picture. The use of targeted crowd wisdom, such as a group of experts playing out a scenario, combines the best of both worlds: that of the individual and that of the crowd.<sup>39</sup>

Wargames provide a space to employ the expertise and individuality of every participant while leveraging collaboration among participants, to generate maximum value from the intellectual encounter and cross-fertilization of ideas. That said, wargame participants should include experts from a wide range of fields within the organization, including some who are at the core of operations and others who work in the company's general ecosystem.

When creating the lists of participants in all three case studies, the wisdom of the expert crowd was the key principle applied. Each group contained people who performed different business functions, including marketing, sales, finance, and operations. To give participants a multitude of perspectives and stimulate their thinking, their suppliers and contractors also were invited to attend (contingent on signing confidentiality agreements). This injected outside perspectives into the exercise, which otherwise might not have been represented.

Finally, the division into subgroups that must compete with each other or contend with different aspects of the problem (such as in different scenarios) minimized the risk of individual or group bias. In the second case study, participants developed several futures, with the goal of preventing a focus on just one future that the designers presented or that the group dynamic created.

### *Organizational Structures, Procedures, and Workflows*

Wargames, and role-playing games in general, create a unique learning process in which a core group from within the organization creates new knowledge and understanding. The product of the process is not just another book by an external consultant that sits unopened on the shelf. In role-playing games, every participant contributes to the development of the resulting strategic knowledge and therefore is committed to implementing the results. The task of the game manager is to create the conditions for organizational learning and the means for effective implementation of the resulting insights, while also creating deep and multidimensional commitment at the organizational level. Games at this level require the allocation of resources, including time, attention, and money. Beyond that, however, they require serious commitment and cannot be conducted as a side event.

Strategic thinking always requires time and attention and must be removed from everyday concerns. The investment is rewarded, however, when it enables decision-making that is based on careful thought and thorough investigation of the most serious issues. Moreover, bringing key players together in such a laboratory environment leads to deep and relevant insights in a relatively short period. It also promotes flexible, collective thinking that allows the scenario to be adapted to any challenge or strategic environment.

Many organizations experience multidimensional communication problems. Wargames promote shared learning and require group members to set aside their preconceptions and engage in genuinely collaborative analysis. In this kind of learning, there is a free flow of ideas and thoughts among people, organizational functions, and hierarchical levels. These games potentially will improve vertical, horizontal, and external communication, provided that the participating group is heterogeneous and the environment allows for open dialogue, even if it is structured. In the three case studies presented above, each of the groups was heterogeneous in its composition; in the last two games, several of the participants noted that the experience had given them their first significant opportunity to sit down together to think strategically.

Games also involve learning about learning—that is, identifying patterns in the discourse of the participating group that reflect organizational communication patterns. Companies often discover that their patterns of discourse interfere with learning and create a closed organization with a conceptual hierarchy in which struggles for professional integrity freeze the organization and hinder its ability to produce a holistic, strategic picture. In a complex, information-saturated world, the basic unit of learning is the group rather than the individual. The framework of a wargame experience exposes decision makers to a different pattern of learning and allows them to infuse a new perspective into the corporate culture.

In addition, wargames are particularly effective as part of company procedures, rather than as a detached event. The preparation of a wargame for any organization requires a deep understanding of the issues challenging the members of management; the challenges they perceive as central; and the language they use to describe the organization, its goals, and environment. The preparation also should take into account the organization's short- and long-term plans. During the game, the game manager should connect the game processes and the issues that participants raise without a predefined plan for how the game will run. At the conclusion of the game, the game manager should identify the discourse and learning patterns that emerged through the process and compile them for management to use in future company processes. Throughout the game, the game manager should observe the group's insights critically and its results in light of changing circumstances. Just as the laboratory experience is dynamic and changing, so too should organizations and their development of knowledge be dynamic.

Although wargames originated in a military setting rather than a boardroom, thinkers on both sides can learn from methods used on the other, for both ongoing planning and concrete preparation for threats or opportunities.

Surprisingly, the business world's application of wargames is not always in the context of competition among players in the business environment. Business games are based on probable and realistic scenarios; involve a wide variety of actors and variables; and cover complex scenarios involving cooperation, negotiations, and more, similar to pol-mil games.

Perhaps because they are not subject to rigid doctrines and practices, business games tend to be more flexible in terms of methodology, combining several types of methodologies in one game. Such flexibility should be encouraged in military wargames. The military has a tendency to compartmentalize, but in wargames it is worthwhile and often necessary to broaden the crowd of participants instead. Business environments are often similarly hierarchical, although it is easier to remove such barriers in the private sector. Good leaders, however, strive to break down those barriers so that the best ideas emerge, rather than hearing only the loudest voice of the most senior person. A successful wargame allows all participants to express themselves freely, which can be a key component for application in a military environment.

Ultimately, most strategic questions are about mysteries to be solved rather than secrets to be discovered. The distinction is crucial not only for a successful wargame but, more importantly, for successful policy planning and execution. As Richard Duke and Jac L. A. Geurts so accurately summarize, wargames are "a process that will simultaneously master complexity, optimize communication, stimulate creativity, lead to consensus, and develop commitment to action."<sup>40</sup>

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#### NOTES

1. Simulation games were used at the end of the eighteenth century in Belgian business schools and then in the 1820s in France; see Léo Touzet and Pierre Corbeil, "Vital Roux, Forgotten Forerunner of Modern Business Games," *Simulation & Gaming* 46, no. 1 (2015), pp. 19–39, available at [journals.sagepub.com/](http://journals.sagepub.com/).
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5. Andrew Wilson, *The Bomb and the Computer: Wargaming from Ancient Chinese Mapboard to Atomic Computer* (New York: Delacorte, 1969), pp. 27–28.
6. For example, during the International Military Tribunal for the Far East, also known as the Tokyo trials or the Tokyo war crimes tribunal (1946–47), Japanese officers described such wargames.
7. Joseph Wolfe, "A History of Business Teaching Games in English-Speaking and Post-socialist Countries: The Origination and Diffusion of a Management Education and Development Technology," *Simulation & Gaming* 24, no. 4 (December 1993), pp. 446–63, available at [journals.sagepub.com/](http://journals.sagepub.com/).

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